QC ABSTRACT

NAME OF WORK: Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
7	Precast (230mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
8	RCC(M20)	Compressive Strength(7days and 28days)	4 sets /50-100 cum	71.61	8	8

Assistant Executive Engineer
Highways Division
B.B.M.P. Bangalore - 97

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-04-26-36** **Date: 20-03-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	18-03-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	2.1	_
2	Finess by Air permeablity method (m^2/kg,Min)	284.5	225m^2/kg, Min
3	Density (gm/cc)	3.13	_
4	Standard Consistency (%)	0.28	Not specified
5	Initial Setting time	180 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

Note:

The results pertain to the samples received and tested.

All information furnished by Agency/Representative

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Authorized Signatory
Technical Manager

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-04-26-36** **Date: 20-03-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	18-03-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	2.1	_
2	Finess by Air permeablity method (m^2/kg,Min)	284.5	225m^2/kg, Min
3	Density (gm/cc)	3.13	_
4	Standard Consistency (%)	0.28	Not specified
5	Initial Setting time	180 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-04-26-36** **Date: 15-04-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	18-03-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	3 Days	29.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	57.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2023-04-26-36** **Date: 20-03-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	17-03-23

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	190	190	1.3	98.7	90-100
3	20 mm	7284	7474	49.8	50.2	30-70
4	10 mm	4189	11663	77.8	22.2	10-35
5	4.75 mm	3001	14664	97.8	2.2	0-5
6	Pan	336	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2023-04-26-36** **Date: 20-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.5	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.8	
3	Specific Gravity	2.66	_
4	Bulk Density(Loose) (Kg/l)	1.42	_
5	Bulk Density(Compacted) (Kg/l)	1.48	_
6	Water Absorption(%)	0.21	_

* The results obtained are satisfactory as per standard requirements.

Note:

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2023-04-26-36** **Date: 20-03-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	17-03-23

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	248	248	5.0	95.0	90-100
3	10 mm	2188	2436	48.7	51.3	25-55
4	4.75 mm	2285	4721	94.4	5.6	0-10
5	Pan	279	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2023-04-26-36** **Date: 20-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	8.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.4	
3	Specific Gravity	2.62	_
4	Bulk Density(Loose) (Kg/l)	1.42	_
5	Bulk Density(Compacted) (Kg/l)	1.48	_
6	Water Absorption(%)	0.35	_
7	Aggregate crushing Value(%)	24.8	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	25.1	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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Technical Manager

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Format No: CP/TF/01

TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2023-04-26-36** **Date: 20-03-23**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-03-23

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2021
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 17-03-23

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	35	35	3.5	96.5	90-100	90-100	90-100	95-100
3	2.36 mm	172	207	20.7	79.3	60-95	75-100	85-100	95-100
4	1.18 mm	116	323	32.3	67.7	30-70	55-90	75-100	90-100
5	600 micron	201	524	52.4	47.6	15-34	35-59	60-79	80-100
6	300 micron	217	741	74.1	25.9	5-20	8-30	12-40	15-50
7	150 micron	183	924	92.4	7.6	0-10	0-10	0-10	0-15
8	Pan	76	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2023-04-26-36** **Date: 20-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.94	–
2	Specific Gravity	2.55	–
3	Material finer than 75 micron(%)	7.6	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID	:	**CP-2023-04-26-36**	**Date: 09-04-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.	
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)	
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032	
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	05-04-23	
Sample Type /Size	:	Precast Cover Slab - 100mm Thick	
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete	
Date of test	:	05/04/2023	
Grade of Slab	:	M15	

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.51	100.48	1.116	4718	79.9	16.9	15.8	19.7
2	Cover Slab-2	77.48	100.52	1.122	4714	82.3	17.5	16.2	20.3
3	Cover Slab-3	77.53	100.51	1.118	4720	81.5	17.3	16.1	20.1

* The results obtained are satisfactory as per standard requirements.

Note:

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Technical Manager

****End of Report****

AEE (VRP) SD

Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2023-04-26-36** **Date: 16-04-23**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-04-23

Sample Type /Size : Precast Cover Slab - 230mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 12/04/2023

Grade of Slab : M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.52	230.48	1.116	4719	80.2	17.0	15.8	19.8
2	Cover Slab-2	77.51	230.54	1.122	4718	81.6	17.3	16.1	20.1
3	Cover Slab-3	77.49	230.41	1.118	4715	82.4	17.5	16.3	20.3

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2023-04-26-36** **Date: 20-03-23**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)
Agency	:	Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032
Customer's Reference	:	BBMP/EE/BTP/WO/130/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-03-23
Sample Type	:	Sunvik
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.
Date of test	:	18-03-23

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 06/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 01-04-23

Customer ID : Drain Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 06/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	30/03/2023	06/04/2023	149.84 X 150.89 X 150.85	22610	8.917	410.7	18.2	18.4
2	Drain Bottom Raft Concrete	M20	30/03/2023	06/04/2023	150.32 X 150.27 X 149.20	22589	8.198	414.8	18.4	
3	Drain Bottom Raft Concrete	M20	30/03/2023	06/04/2023	149.11 X 149.87 X 151.99	22347	8.923	414.8	18.6	

* The results obtained are satisfactory as per standard requirements.

Note:

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R RUDRAPRASAD
Authorized Signatory
Technical Manager

****End of Report****

AEE (VRP) SD

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 08/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 03-04-23

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 08/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	01/04/2023	08/04/2023	150.64 X 150.91 X 149.93	22732	9.048	422.4	18.6	18.6
2	Drain Side Wall Concrete	M20	01/04/2023	08/04/2023	150.33 X 151.21 X 149.86	22731	8.348	423.6	18.6	
3	Drain Side Wall Concrete	M20	01/04/2023	08/04/2023	151.01 X 149.18 X 149.41	22527	9.048	420.7	18.7	

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 12/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 07-04-23

Customer ID : Culvert Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete	M20	05/04/2023	12/04/2023	150.67 X 150.48 X 149.46	22672	8.873	409.4	18.1	18.2
2	Culvert Bottom Raft Concrete	M20	05/04/2023	12/04/2023	150.73 X 150.54 X 150.94	22692	8.216	410.5	18.1	
3	Culvert Bottom Raft Concrete	M20	05/04/2023	12/04/2023	151.61 X 149.33 X 151.99	22640	9.059	419.8	18.5	

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Technical Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 15/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 10-04-23

Customer ID : Culvert Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 15/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Culvert Side Wall Concrete	M20	08/04/2023	15/04/2023	151.43 X 149.67 X 151.47	22664	8.801	408.2	18.0	18.5
2	Culvert Side Wall Concrete	M20	08/04/2023	15/04/2023	150.19 X 150.51 X 150.45	22605	8.468	425.2	18.8	
3	Culvert Side Wall Concrete	M20	08/04/2023	15/04/2023	149.91 X 149.26 X 151.54	22375	8.335	417.4	18.7	

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Technical Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 27/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 01-04-23

Customer ID : Drain Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 27/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	30/03/2023	27/04/2023	150.77 X 150.09 X 151.76	22629	8.300	530.8	23.5	23.4
2	Drain Bottom Raft Concrete	M20	30/03/2023	27/04/2023	149.85 X 149.35 X 151.90	22380	8.331	511.7	22.9	
3	Drain Bottom Raft Concrete	M20	30/03/2023	27/04/2023	151.65 X 150.65 X 150.73	22847	8.881	545.9	23.9	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

AEE (VRP) SD

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 29/04/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 03-04-23

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 29/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Drain Side Wall Concrete	M20	01/04/2023	29/04/2023	149.72 X 151.30 X 151.58	22653	8.731	537.3	23.7	23.4
2	Drain Side Wall Concrete	M20	01/04/2023	29/04/2023	150.49 X 151.67 X 150.64	22824	9.011	519.2	22.7	
3	Drain Side Wall Concrete	M20	01/04/2023	29/04/2023	151.12 X 150.70 X 150.45	22773	8.713	539.9	23.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 03/05/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 07-04-23

Customer ID : Culvert Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete	M20	05/04/2023	03/05/2023	150.58 X 149.44 X 150.39	22503	8.750	526.5	23.4	23.3
2	Culvert Bottom Raft Concrete	M20	05/04/2023	03/05/2023	149.84 X 151.20 X 151.57	22656	8.158	520.4	23.0	
3	Culvert Bottom Raft Concrete	M20	05/04/2023	03/05/2023	151.93 X 149.88 X 151.75	22770	8.426	536.2	23.5	

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Authorized Signatory
Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-04-26-36** **Date: 06/05/2023**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Roads and Drains at Ramachandrapura Kempanna Layout Roads and Surrounding areas in Ward No.15 (Kuvempunagara)

Agency : Sri. Suresh U, No: 12, 4th Cross, Sunrise Colony, Cholanayakanahalli, R T nagar, Bengaluru-560032

Customer's Reference : BBMP/EE/BTP/WO/130/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 10-04-23

Customer ID : Culvert Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 06/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete	M20	08/04/2023	06/05/2023	151.84 X 149.55 X 151.24	22708	8.831	542.5	23.9	23.5
2	Culvert Side Wall Concrete	M20	08/04/2023	06/05/2023	149.21 X 150.32 X 149.07	22429	8.718	508.3	22.7	
3	Culvert Side Wall Concrete	M20	08/04/2023	06/05/2023	149.44 X 151.68 X 151.75	22667	8.698	542.6	23.9	

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